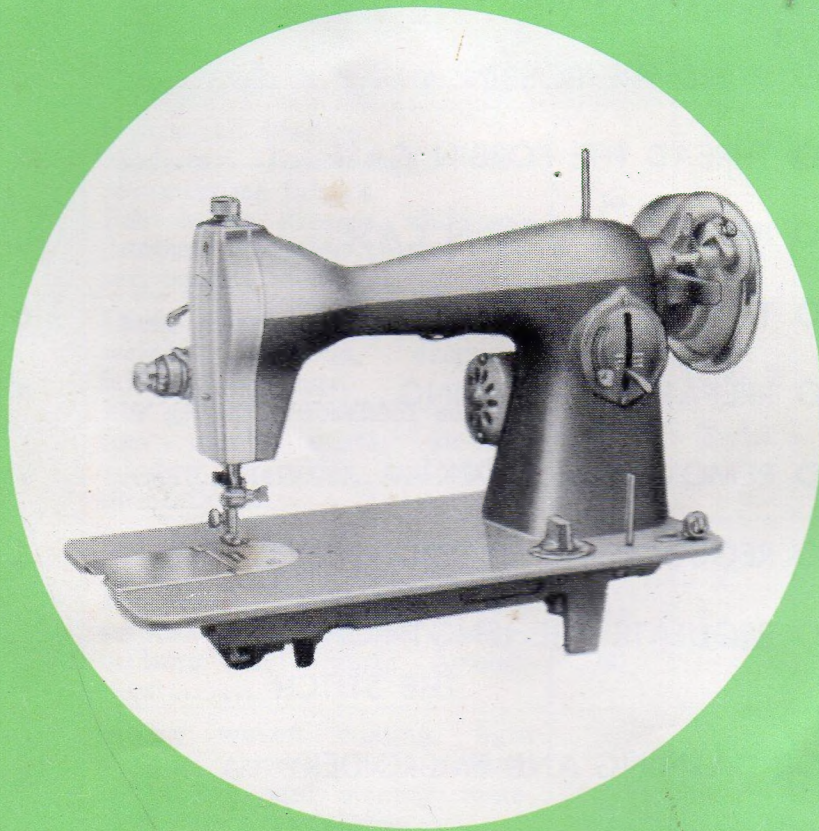


INSTRUCTION MANUAL



SEWING MACHINE

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SO EASY--ENJOYABLE SEWING

- ★ Keep the machine clean and well oiled
- ★ Adjust tension, etc. properly
- ★ Use proper size needles

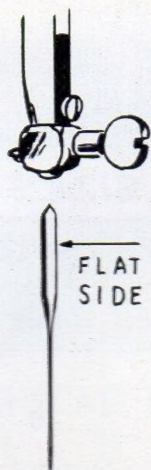
NEVER ATTEMPT TO USE A BENT NEEDLE
NOR ONE WITH A BLUNT POINT

NEEDLE AND THREAD SIZES

| Sizes and Grades of Needles | Type of Fabric and Work to be Done | SIZE OF THREAD | | |
|-----------------------------|--|-----------------|---------------------|--------------------|
| | | Cotton | Silk | Linen |
| 11 (Medium-Fine) | Nylon and Plastics. Medium light-weight and summertime fabrics. For house dresses, children's dresses, washable cotton dresser, aprons, curtains. | 80 to 100 | 0 Twist | |
| 14 (Medium) | Dress silks and cottons, light weight woollens, draperies fabric furnishings. For general household sewing, fine men's shirts, smocks, window draperies and fabric decorations. | 60 to 80 | A & B Twist | |
| 16 (Light Heavy) | Heavy cretonne, madras, muslin, brocades and quilts. For men's work shirts, study smocks and aprons, heavy quilting and fabric furnishings. | 40 to 60 | C Twist | |
| 18 (Medium-Heavy) | Heavy woven coating, light weight canvas, bed ticking, upholstery and awning materials, slipcover fabrics. For work or sports uniforms, suits made of strong linen of cotton fabrics, awnings, slipcovers and mattresses. | 24 to 30 | D E Twist | 60 to 80 |
| | Heavy woven suiting, coating, duck, ticking, drilling, canvas and sacking. For heavy wash uniforms, bedding supplies for hospitals, hotels and camps. | | | |

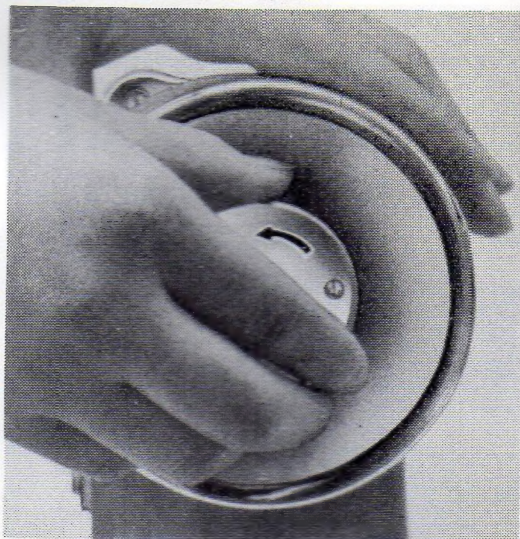
In general sewing use the same size thread in the bobbin as is mentioned above

TO SET THE NEEDLE



Raise needle bar to its highest position by turning the balance wheel toward you. Loosen the needle clamp screw. Remove the old needle, and slide new needle up (FLAT SIDE TOWARD BALANCE WHEEL) until it hits the top. Then tighten the needle-clamp screw securely. For best results, change needles frequently.

THE BALANCE WHEEL



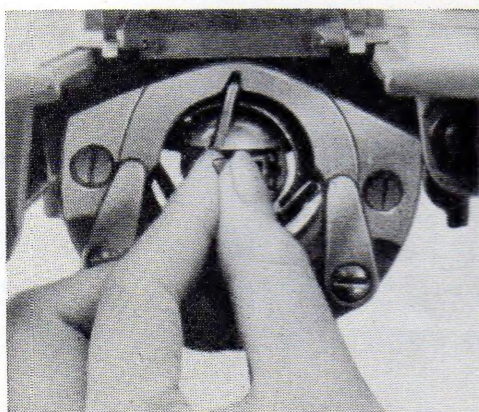
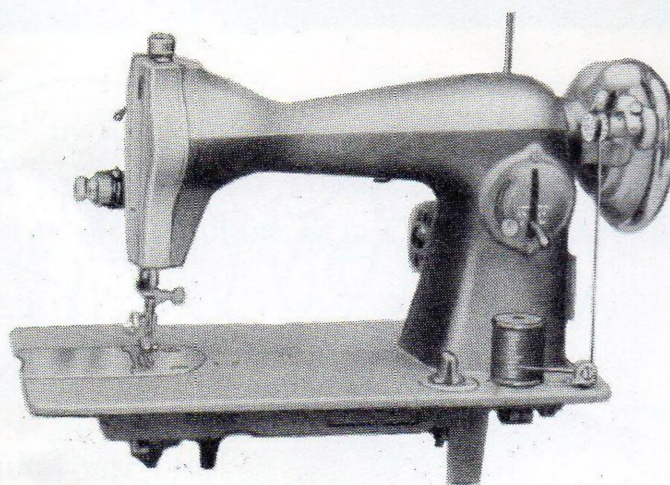
**WHEN SEWING, WINDING BOBBINS,
or CHANGING NEEDLES ALWAYS TURN
THE BALANCE WHEEL TOWARDS YOU**

The balance wheel is provided with a stop-motion device which allows the balance wheel to run freely so that bobbins may be wound without operating the needle.

To loosen the wheel, hold it tightly with the left hand, and with the right hand, turn the stop-motion knob toward you. See arrow.

To tighten the balance wheel, turn stop-motion knob away from you.

TO WIND THE BOBBIN



First remove the bobbin case as follows: Turn the balance wheel toward you until the needle bar is at its highest position. Lift the slide plate, and with two fingers, grasp the hinged-latch on the bobbin case and remove the case.

The bobbin will remain in the case as long as you hold on to the hinged-latch. Close the latch and the bobbin will fall out.

Loosen the balance wheel (as explained on Page 3).

Place a bobbin on the bobbin-winder spindle, and press it to the end of the spindle, making certain that the pin on the spindle shoulder enters the slot in the bobbin turning the rubber wheel.

Then press down the flat lever (between the bobbin and the rubber wheel) until the bobbin is held in place by the little metal finger that fits between the sides of the bobbin.

Place a spool of thread on the lower spool pin of the machine, and pass the thread through the disk (from below) at the bottom right of the machine.

Next, wind the thread at the left end of the bobbin, from below and behind the bobbin and toward you, seven or eight times.

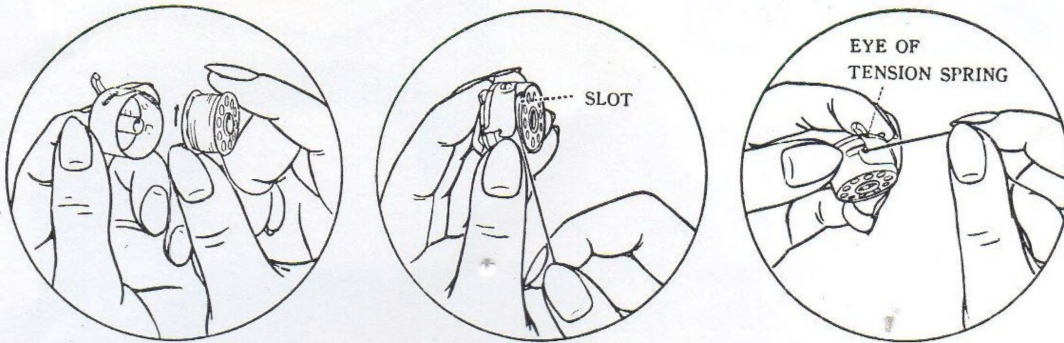
Turn the balance wheel toward you, and press the knee control or foot control (as in sewing) to wind the bobbin completely. Run the machine slowly to wind the bobbin evenly.

When the bobbin is full, it will release automatically and come to a stop. Break off the thread, and remove the bobbin. Tighten the balance wheel for sewing.

Should the thread wind unevenly on the bobbin, adjust the tension Bracket at the bottom by loosening the screw and sliding the tension right as needed to change the tension.

Note: —this machine uses standard 15 class bobbins—available at all sewing stores.

TO THREADING THE BOBBIN CASE

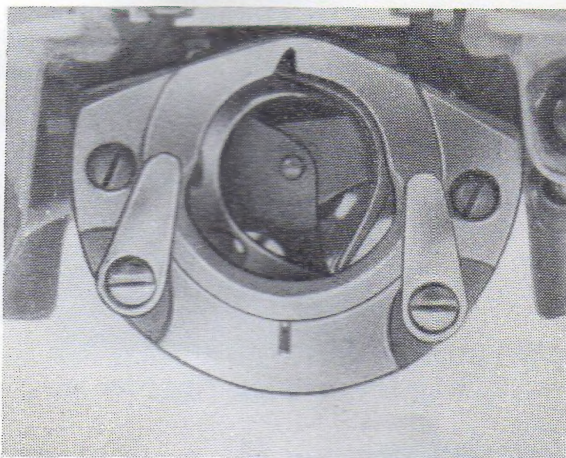


Hold the bobbin case between the thumb and forefinger of your left hand with the slot in the edge facing up.

Hold the wound bobbin between the thumb and two fingers of your right hand with the thread on top leading away from you (see picture).

Insert the bobbin into the case, pull the thread into the slot; then down under the spring until it enters the delivery eye.

TO INSERTING THE BOBBIN CASE



(Be sure the needle is at its highest point).

Hold the bobbin case with your left hand by the hinged latch, with the metal finger of the case pointing up and in line with the notch at the top of the bobbin raceway.

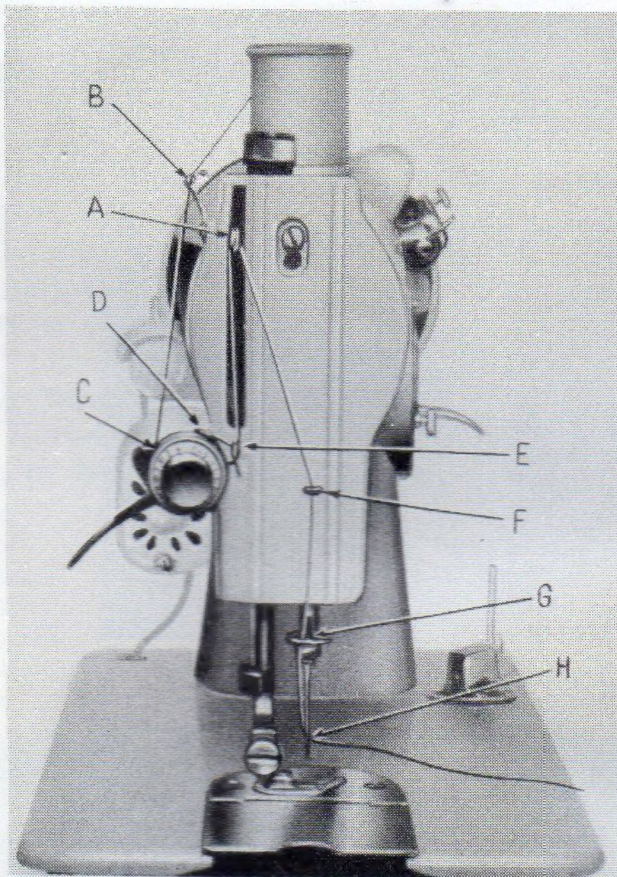
Release the hinged-latch, and fitting the center of the bobbin over the center-pin protruding from the raceway, press the bobbin gently into position, being sure that the metal finger fits into the notch of the raceway.

The 5 or 6 inches of thread hanging freely from the case will be brought up later through the hole in the center of the needle plate.

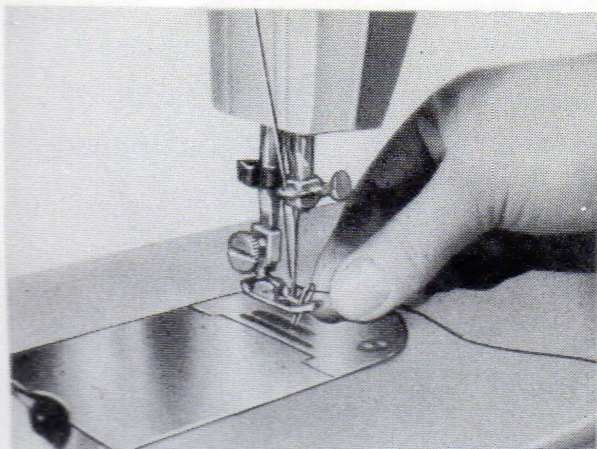
Close the slide plate.

TO THREADING THE MACHINE

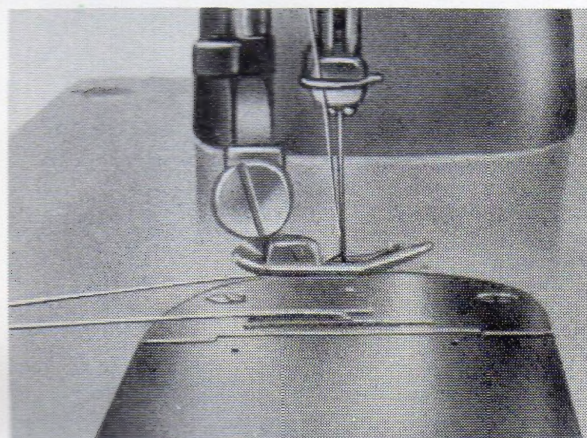
Turn Balance Wheel by hand towards you until the take-up lever (A) is raised to its highest point. Place spool of thread on the spool pin of the machine arm; pass the thread through the thread guide (B) at the top corner of the face-plate; down and the back to front between the tension disk (C); up to over thread guide (D); down into the hook of take-up spring (E); and over back to front through hole in the end of the thread take-up lever; down through the eyelet of the face-plate (F); into the wire thread guide at the lower end of the needle bar (G); then from left to right through eye of the needle (H); Draw about 5" of thread through the eye of the needle with which to commence sewing. Hold thread in your left hand and turn balance wheel toward you until needle moves up and down, and up again to its highest point, catching the bobbin thread, which will be brought up that way through the hole in the throat plate.



TO PREPARE FOR SEWING



Pick up the thread as follows: Holding the loose end of the needle thread in your left hand, turn the balance wheel toward you by hand until the needle moves down and up again to its highest point. Pull the needle thread gently, and the bobbin thread will come up with it in the form of a loop through the needle hole. With your finger, pull this loop until the end of the thread appears. (If the bobbin thread does not rise, check to see if at least 5 or 6 inches of bobbin thread is hanging loosely from the bobbin case.) Then draw both ends of the thread back under the presser foot and through the toes of the presser foot.



Place the material to be sewn beneath the presser foot lever. Insert needle into material by turning the balance wheel toward you, from top down, by hand. Regulate stitch to desired size, and start sewing.

Do not try to help the feeding of the work by pulling the material, as this may bend the needle and cause it to become blunt or break. As the machine feeds without any assistance, it is sufficient merely to guide the fabric gently by hand in the direction you want it to be sewn.

IT IS ADVISABLE TO TEST THE TENSION AND THE STITCH LENGTH ON TWO PLIES OF SCRAP MATERIAL BEFORE STARTING TO SEW THE ACTUAL GARMENT.

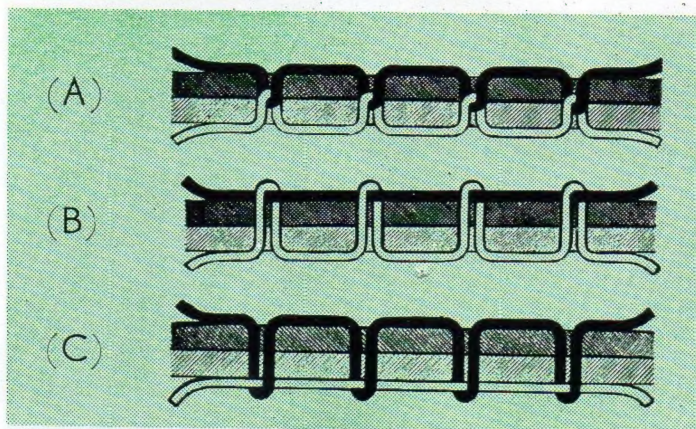
TO REMOVE THE WORK

To remove the work, stop the machine with the needle at its highest point; raise the presser foot, and draw the fabric back and to the left, then pass the threads over the thread cutter, and pull down lightly to cut them.

IMPORTANT NOTICE

Never Operate the machine without material under the presser foot. If this is not strictly adhered to, your machine will lock, and cannot be operated until the thread is cleaned out of the race.

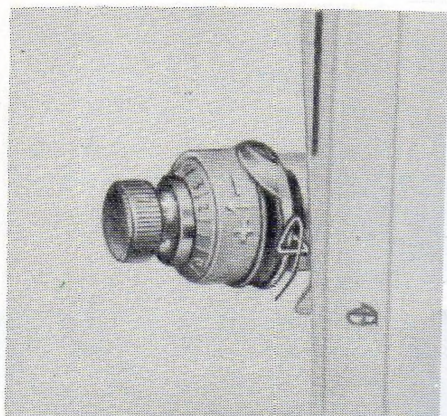
TO REGULATE THE TENSION



For perfect stitching, the tension on the upper and under threads should be adequate and just sufficiently strong to lock both threads in the center of the work, as shown above (A).

If the tension on the needle is too tight, or if that on the bobbin thread is too loose, the needle thread will lie straight along the upper surface of the material, thus making an imperfect stitch, as shown above (B).

If the tension of the bobbin thread is too tight, or if that on the needle is too loose, the bobbin thread will be straight along the under side of the material, thus making an imperfect stitch, as shown above (C).



A correct stitch can usually be obtained by varying the tension on the needle thread.

To increase the tension, turn the thumb nut clockwise.

To lessen the tension, turn the nut in the opposite direction. The tension adjust from 0 to 9 in one 360° turn, with 0 being the lightest tension and 9 being the tightest. The thumb nut should not be turned abruptly, but regulated little by little, until the desired tension is obtained. All adjustments should be made while the presser foot is down since an automatic release does not permit adjustments to be made when the foot is

up. The quality of sewing depends on the thread. Hence, it is necessary for the user to become fully familiar with the correct tensions, through practice.

TO REGULATE THE LENGTH OF THE STITCH

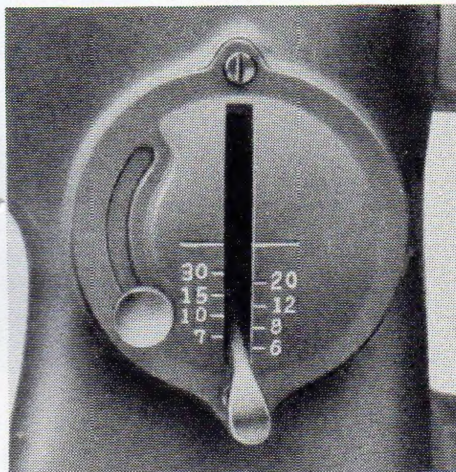
NOTE: NEVER SEW OR USE MACHINE IN ZERO OR NEUTRAL POSITION.

The length of stitch and reversal of stitching, both are regulated by Regulator Lever fixed on the surface of the Arm close to pulley. The feeding action is augmented and consequently the stitch length widened by shifting the Regulator Lever downward which is

to be kept lightly in position with the screw on the left side of the Round metal plate, which must be moved over to suit the purpose.

On the other hand the length of stitch shortens as the Regulator Lever is shifted upward but below the center of the Round plate.

Therefore the desired length of stitch is obtained in either the normal or reversed state by pinning tight to the exact position, the screw attached thereon, which would guarantee a uniform length of stitch.



To sew in reverse, first reduce the speed of pulley and before finishing sewing stop the wheel by hand. Then raise the Regulator Lever upward from the center line. This Lever is brought up to any point where a desired length of stitch is required and secured in place tight by the screw which may follow the regulator upward or downward.

TO ADJUST THE BOBBIN TENSION.

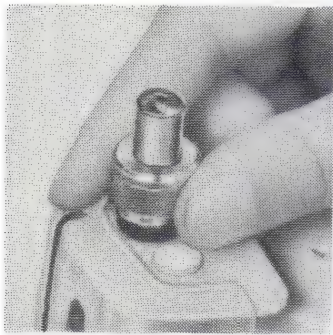
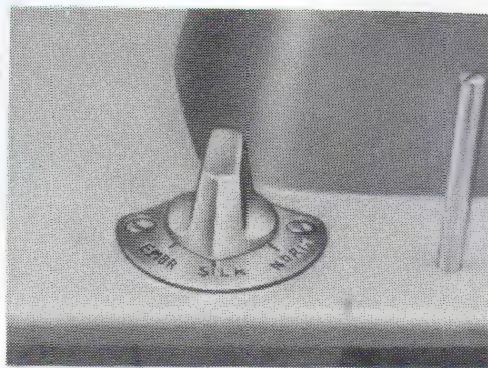
All sewing machines are correctly adjusted before leaving the factory, and it is therefore seldom necessary to alter the bobbin tension.

Should it become necessary to do so, however, due to using certain kinds of materials, the adjusting screw in the tension spring on the outside of the bobbin case can be tightened so as to increase the tension or loosed slightly in order to lessen the tension.

FOR DARNING AND EMBROIDERY

By using the Drop Feed Dial, you may adjust the Feed Dog for sewing different types of materials and for embroidering or darning.

1. For sewing very light fabrics, move the indicator to "SILK", for heavier cloths, to "NORM".
2. When the indicator is at "EMBR" position, the Feed Dog will be lowered below the surface of the Needle Plate. This is for embroidering and or darning, and you will be able to move your work freely about in any direction you desire.
3. For embroidering and or darning, first remove pressure or the Presser Foot.



TO WORK THE BUILT IN DARNER.

Catch between thumb and forefinger the fringe of darning and press down then the darning jumps up, and release the pressure on sewing cloth automatically, then you are ready to darn/embroider.

Large repairs, fine materials, embroidery and applique are best done with a hoop.

It is advisable that you practice carefully on scrap material before attempting a major repair so that you will learn to control the stitching evenly. Be sure to keep the material constantly moving by pressure of your fingers inasmuch as permitting the cloth to remain in one place while sewing may cause your thread to break.

Upon completion of your use of the Darning, simply press the device down to its normal position. Also turn the drop-feed button back to regular sewing.

If you want to sew the fine fabric, silk etc., you will get good result to press the darning at medium height, and the drop feed knob in silk position.

TO REGULATE PRESSURE OF THE PRESSER FOOT IN REGULAR SEWING.

Always maintain only enough pressure to keep the cloth moving and to permit the machine to make a straight seam. When goods do not feed through the machine properly, there may be too much pressure of the presser foot. Adjust this condition by allowing the darning device to rise a bit. Test this adjustment before sewing. If you wish, you can instead adjust the machine for sewing heavier fabrics by adjusting the Drop-Feed.

If your machine has been standing idle for many months, it will require a thorough cleaning and oiling that can best be done by your sewing machine dealer.

OILING the MACHINE

Use only a good grade of oil. Inferior oils may cause the machine to become sluggish.

Use only oil whose label specifies "for Sewing Machines."

If your machine is used continuously, it should be oiled every day; preferably when you are done using the machine for the day. If not in constant use, oil the machine before using.

Use ONE drop of oil on bearings, and wherever one part rubs against another, or turns within another part.

Some such parts are visible to the eyes. Others are hidden inside the castings. Hence look for all oil holes in the casting as indicated by arrows in the picture. Insert the oil can nozzle well into the oil hole.

Before oiling the oil hole to the RIGHT of the spool-pin on top to the machine, turn the balance wheel until the needle is DOWN at its lowest point, and look into the oil hole to see that the oil receptacle on the shaft is in position.

Also remove the face plate by loosening the screw near the top and lower, and lifting the face plate up and off. Turn the balance wheel slowly by hand and watch the mechanism under the face plate to see which parts move and require oil.

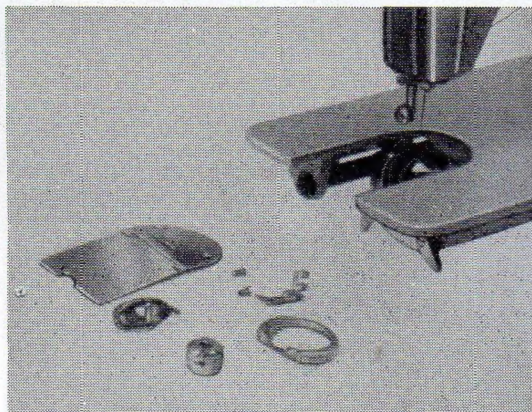
Next, put three drops of oil in the bobbin raceway after the race has been removed as described at the top of page 12.

The machine is also to be oiled from the back. Loosen the screw holding the metal plate, move the plate out of the way, and tighten the screw to hold it there. Turn the balance wheel slowly in order to see which parts move and require oil.

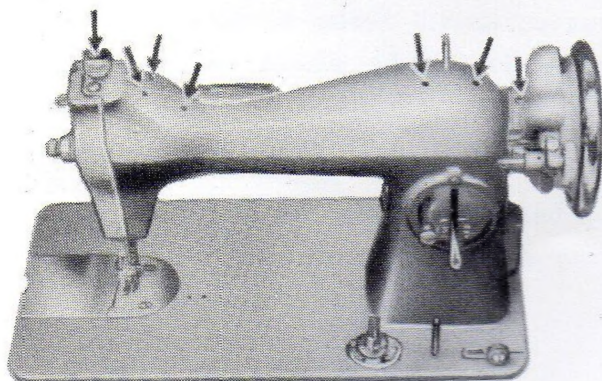
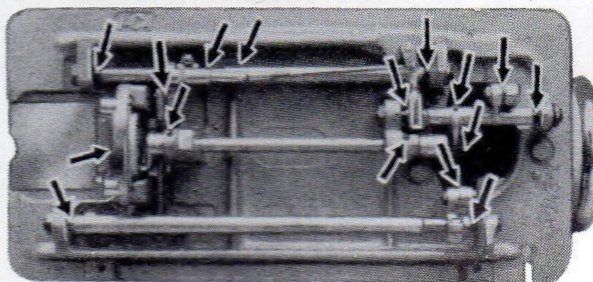
TO CLEAN AND OIL

Lint, dust and threads collecting in the machine will cause it to become sluggish. To clean the machine, first disconnect the electric cord. Then remove then needle, presser foot slide plate, and throat plate

Also remove the bobbin and bobbin case. Brush the exposed parts thoroughly. Remove any packed lint with a toothpick. Clean the inside of the bobbin case and under the spring. Also clean the raceway as instructed on Page 13. (Leave the machine in this condition for oiling.)



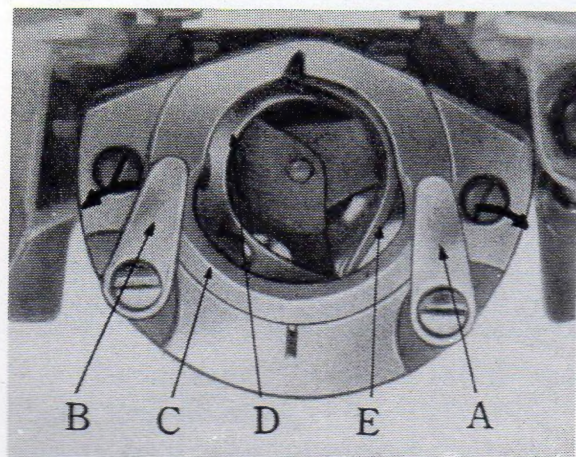
Then tilt the machine back, and again turn the balance wheel slowly to locate the bearings and other moving parts. Here, too, you will find some oil holes in the castings.



Wipe away all excess oil from all parts of the machine. Connect and run the machine rapidly for a minute to allow the oil to penetrate into the bearing.

Also sew some scrap material to be sure that no oil drip from the needle bar on to your material.

TO REMOVE ACCUMULATED LINT OR THREAD FROM SHUTTLE RACE



1. Turn the balance wheel by hand until needle is at its highest position.
2. Remove bobbin case.
3. Turn knob (A) one half turn toward you.
4. Turn knob (B) one half turn away from you.
5. Remove retaining (C), and hook (D) by grasping axle of hook (D).
6. Remove accumulated lint and thread from retaining ring, hook and race body.
7. Replace hook (D) in race body, with axle facing out, forming a perfect circle with Driver (E).
8. Replace retaining ring (C), polished side out, so that both grooves are under knobs (A) and (B).
9. Lock retaining ring with knobs (A) and (B).
10. Replace bobbin and bobbin case, and commence sewing.

DO NOT ATTEMPT TO FORCE ANY OF
THE ABOVE OPERATIONS.

HOW TO RECTIFY SOME COMMON SEWING FAULTS

SKIPPED STITCHES. May be caused by a bent or blunt needle ; or by incorrect setting of the needle ; or the wrong size needle ; or by a thread too heavy for the size of the needle.

SEE THAT THE PRESSER FOOT is snug against the presser bar and securely clamped by the screw so that the needle will pass through the opening in the foot without any interference.

BREAKING NEEDLES. Usually due to pulling on the work, causing the needle to get out of line and striking the throat plate thus breaking or bending the needle.

This may be due to presser foot or attachments not being securely fastened to presser bar. Be sure to use correct size needle and thread for material.

BREAKING THE UPPER THREAD. May be caused by ;

- (1) Incorrect thread.
- (2) Not bringing up under thread correctly.
- (3) Upper tension too tight.
- (4) Needle imperfect, or set incorrectly.
- (5) Needle rubbing against attachments or presser foot.
- (6) Needle eye too small for thread.
- (7) Starting the machine at full speed.
- (8) Starting without take-up lever at highest point.

BREAKING THE LOWER THREAD. May be caused by ;

- (1) Incorrect threading of bobbin case.
- (2) Too tight a tension.
- (3) Bobbin wound too full to revolve freely.
- (4) Not bringing up under thread correctly.
- (5) Hole in the needle plate becoming rough, caused by needle striking the plate.
- (6) Dust or lint in bobbin.

UNEVEN STITCHES. May be caused by.

- (1) Presser foot not resting evenly on material.
- (2) Feed not high enough.
- (3) Too short a stitch.
- (4) Pulling cloth.
- (5) Too fine a needle with too coarse (or poor) a thread.

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